

Figure 5.3 (a) Schematic diagram of scanning electrospinning set-up (b) and (c) SEM images of aligned ZrO_2 nanofibers fabricated by scanning electrospinning

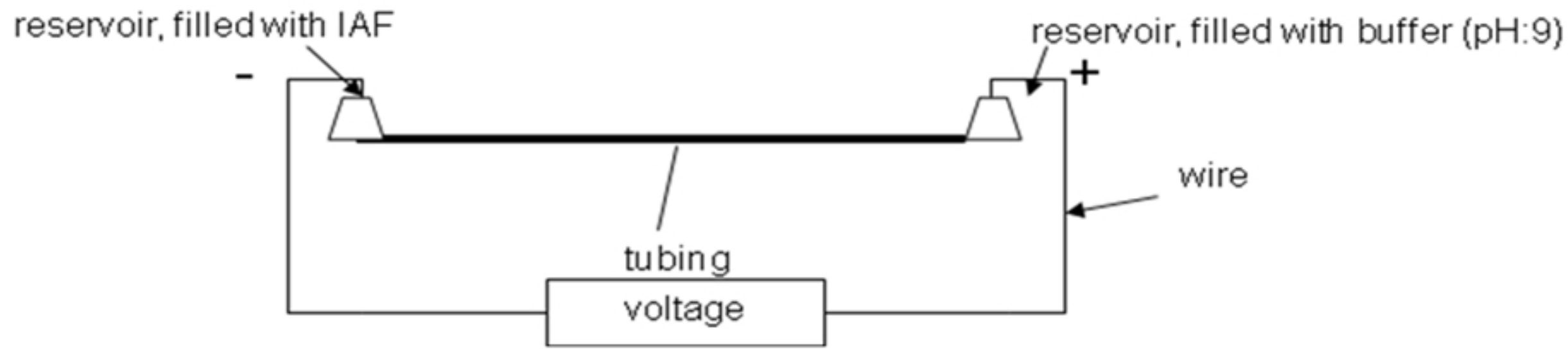


Figure 5.15 Schematic diagram of experiment setup for electrokinetic effect in nanofluidic tubing.

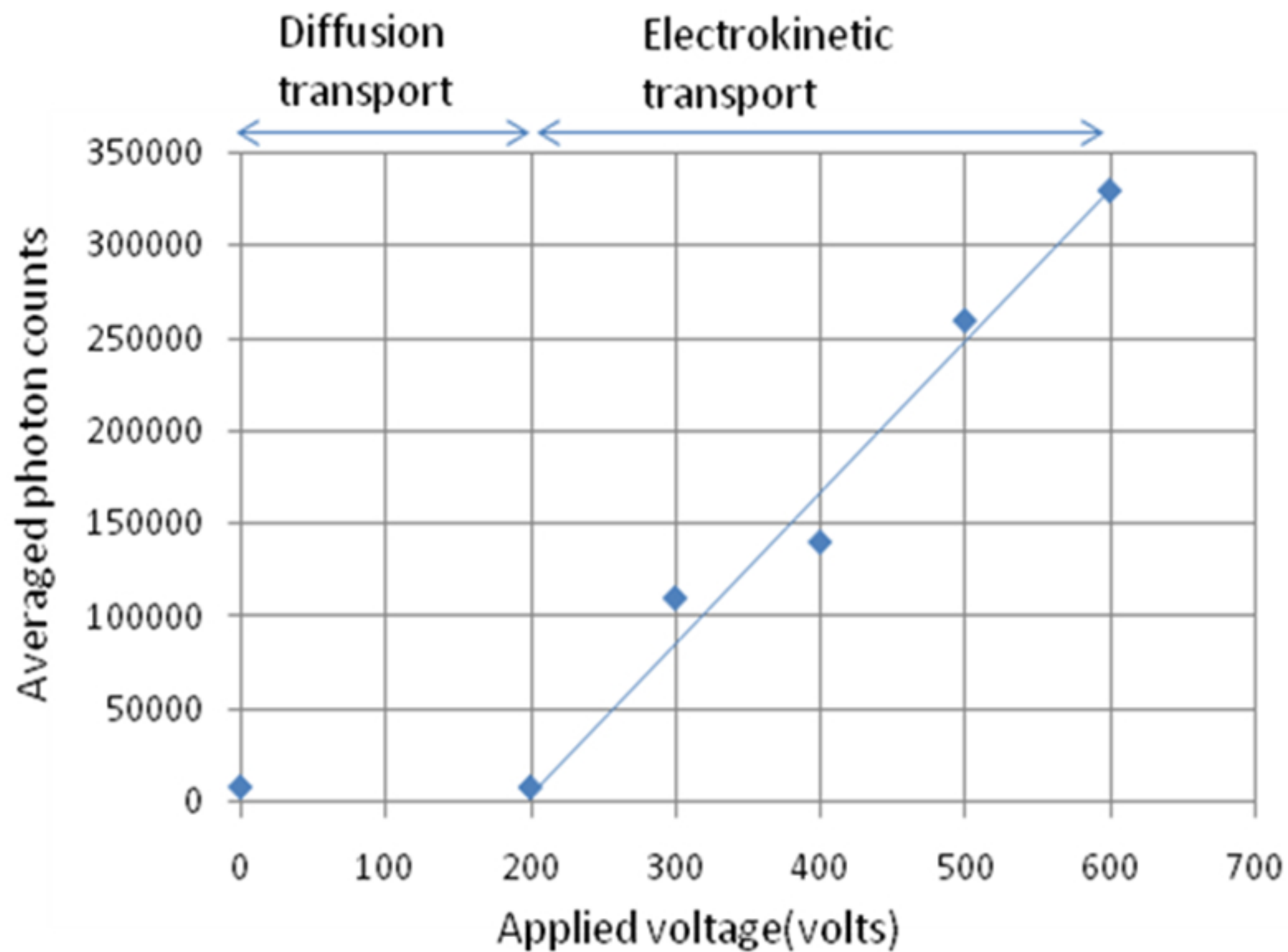


Figure 5.17 Averaged photon counts (collected over a period of 10 seconds) for a 4.9 μM IAF solution in fused-silica nanofluidic tubing versus applied voltage.

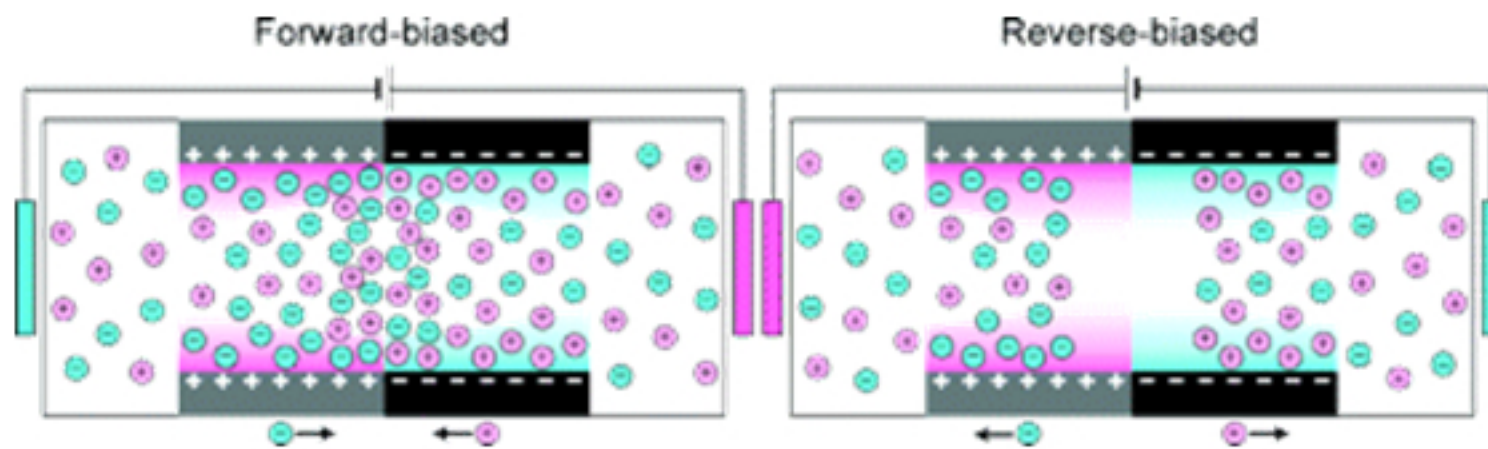
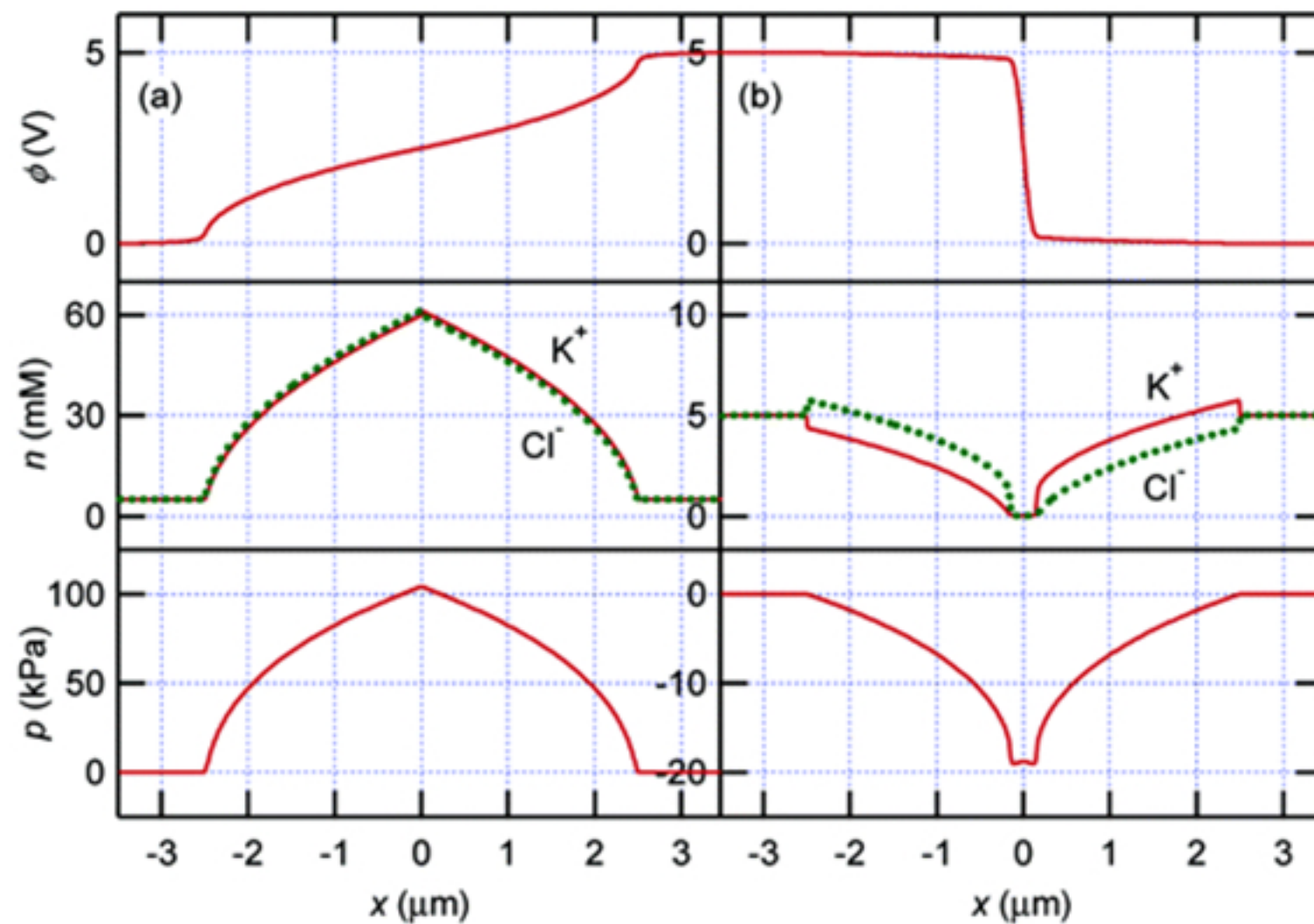


Figure 8.10 Electric potential (along channel center), ion concentration (averaged over the channel height) and pressure profiles (along channel center) for (a) a forward bias of 5 V and (b) a reverse bias of 5 V. The surface charge densities at the left and right halves of the channel are assumed to be 2 and -2 mC/m², respectively. The bulk concentration is 5 mM. Device schematics at the bottom show that ions accumulate at the junction under forward bias, but deplete from the junction under reverse bias. Adapted from B. Lovrecek *et al.*, *Phys. Chem.*, 1959, 63, 750 and reproduced with permission.